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<b>Notice of Allowability</b>	Application No.	Applicant(s)	
	09/871,630	SATO, HIDEKI	
	Examiner	Art Unit	
	Audrey Y. Chang	2872	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendmnet filed on February 22, 2005.
2. ☒ The allowed claim(s) is/are 1-3, 6, 8-9 (renumbered as 1-6).
3. ☒ The drawings filed on 04 June 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

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|---|---|
| <ol style="list-style-type: none"> <li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>1/11/2005</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li> <li>6. <input type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date _____.</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
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### EXAMINER'S AMENDMENT

#### *Remark*

- This Office Action is in response to applicant's amendments filed on January 11, 2005 and February 22, 2005, which have been entered into the file.
- By these amendments, the applicant has amended claims 1, 8 and 9.
- Claims 1-3, 6, 8 and 9 remain pending in this application.

#### *Examiner's Amendment*

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. Justin Oliver (Reg. No. 44,986) on April 22, 2005.

The application has been amended as follows:

In the claims,

Claim 1, line 8, delete "an area" and insert -the area--,

Claim 8, line 8, delete "an area" and insert -the area--,

Claim 9, line 5, delete "an area" and insert -the area--.

#### *Reasons For Allowance*

2. The following is an examiner's statement of reasons for allowance: of the prior art references considered none has disclosed a diffractive optical element having a first and second diffractive optical part each having a *phase type diffraction grating*. Each of the diffractive optical parts further has a *mark for aligning* them and the mark is provided *in the area* where the diffractive grating is provided. The

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*depth or height* of the mark is *10% or less* of the depth or height of the diffractive grating, (as set forth in claim 1). In a different embodiment, the instant application further discloses *a method* for *manufacturing* the diffractive optical element comprising the *steps of molding* the first and second optical part having the phase-type diffractive grating and the step of aligning the first and second diffractive optical parts with the mark present in the area wherein the diffractive grating is provided, the mark has the depth or height that is *10% or less* than the depth or height of the diffractive grating, (as set forth in claim 8). The instant application also discloses a *metal mold* for making a diffractive optical element wherein the metal mold comprises a *first area* for molding a *phase-type diffractive grating* and a *second area* for molding a mark for alignment such that the second area is provided in the area for forming the diffractive grating and the depth or height of the second area for molding the mark is *10% or less* of the depth or height of the first area for molding the diffractive grating, (as set forth in claim 9).

Japanese Patent (JP 10-274075A) teaches a diffractive optical element comprising a grating and a metal mold for molding the same, wherein an alignment mark is provided in the area of the grating. This reference although discloses the *bottom area* of the mark is 10% or less of the bottom area of the first zone of the grating however fails to disclose the height or depth of the mark is 10% or less of the height or depth of the diffractive grating, (Figure 6 of the reference actually discloses the height is about 20% of the height of the grating).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

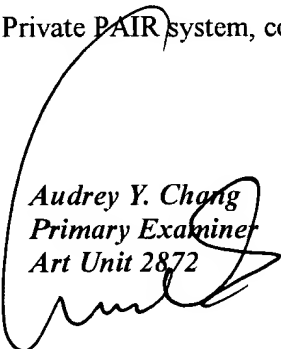
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*Audrey Y. Chang*  
*Primary Examiner*  
*Art Unit 2872*



A. Chang, Ph.D.